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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,113	06/27/2001	Ji Zhang	CISCP214	6264

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EXAMINER	
PHILIPPE, GIMS S	

ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 10/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/894,113	ZHANG ET AL.	
	Examiner	Art Unit	
	Gims S. Philippe	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6,8-13,16,18-20,23-26 and 29-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3, 6, 8-13, 16, 18-20, 23-26, 29-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Amendment

1. Applicant's amendment received on August 16, 2006 in which claims 1, 3, 6, 8, 11, 13, 18, 24, 29, 34, 36 were amended and claims 4, 5, 7, 14, 15, 17, 22, 27, 28, 37, 38, and 39 were canceled, has been fully considered and entered, but the arguments are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 6, 8-13, 16, 18-20, 23-26, and 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda (US Patent no. 6549667) in view of Brooks et al. (US Patent no. 7,114,174).

Regarding claims 1, 11, and 24, Fukuda discloses an apparatus and method for performing an inverse transform on a block of transform coefficients, the block having rows and columns (See Fig. 9, an inverse transform configuration, which operates on blocks as shown in Fig. 15), the method comprising:

Identifying zero patterns in the block of transform coefficients to derive zero pattern information, wherein identifying zero pattern comprises determining the location of zero values or near zero values for multiple rows and for multiple columns in the block of transform coefficients (See Fig. 15, location of zero values, which are tracked by control flags A and B in Figs. 16A-B); and performing one-dimensional inverse transform on a subset of the total number of rows and columns in the block of transform coefficients by using zero pattern information (See col. 10, line 18-38).

It is noted that Fukuda is silent about rescaling the data to meet bandwidth constraint as specified in the newly amended claims.

However, Brooks et al. discloses the same processing method and apparatus including the step of rescaling the data to meet bandwidth constraint (See Brooks et al. col. 14, lines 17-36).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Fukuda's method and apparatus of processing block of transform coefficients by incorporating Brooks' step of rescaling the data to meet bandwidth constraint. The motivation for performing such a modification in Fukuda is to closely match a desired output bitrate and provide for increase in the effective bit rate as taught by Brooks (See Brooks col.13, lines 60-64 and col. 14, lines 36-40).

As per claims 2, 8, 10, 12, 18, 20, 25, 31 and 33, the encoding disclosed in as noted in col. 1, lines 26-67, is an MPEG encoding.

As per claim 23, transcoding is suggested in Fukuda's col. 15, lines 23-64.

As per claims 3, 13, 26, 30, most of the limitations of these claims have been noted in the above rejection if claim 1. In addition, Fukuda further discloses the method wherein performing one-dimensional inverse transforms comprises performing one-dimensional transforms on a subset of the total number of columns in the block of transform coefficients (See Fukuda col. 10, lines 18-38). In addition, Fig. 5 represents a table of thresholds for DCT coefficients wherein the near zero and non zero values are also determined based on the thresholds (See Fukuda col. 2, lines 17-29).

As per claims 6, 16, 29, most of the limitations of these claims have been noted in the above rejection if claim 5. In addition, Fukuda further discloses the method wherein performing one-dimensional inverse transforms further comprises performing one-dimensional transforms on all the columns in the block of transform coefficients (Since the data represented in Fig. 15 is merely exemplary of image transformed data, there clearly exists the possibility of having non-zero data in every column, so that in such a case, all columns would be inverse transformed).

As per claims 9, 19, and 32, Fukuda further discloses the same method wherein performing one-dimensional inverse transforms occurs during decoding (See col. 7, from line 60 to col. 8, line 27, and Fig. 9 and 12 are clearly part of the decoding system).

As per claim 11, See the most of the limitations of this claim have been noted in the above rejection if claim 1. In addition, Fukuda further discloses the method provides "processing" hardware and memory in col. 5, lines12-17, and col. 34, lines 20-42.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 34-36, and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda (US Patent no.6549667) in view of Brooks et al. (US Patent no. 7,114,174).

As per claim 34, most of the limitations of this claim have been noted in the above rejection of claims 1, 11, and 24.

While Fukuda does not specifically disclose a computer readable medium, it proposes a CPU in col. 4, lines 53-67 and col.4, lines 1-5. Therefore, it is considered that one skilled in the art at the time of the invention would recognize the advantage of using a computer readable medium along with the CPU for the purpose of providing a portable programs.

As per claims 35, 41 and 43, the encoding disclosed in as noted in col. 1, lines 26-67, is an MPEG encoding.

As per claims 36 and 42, most of the limitations of these claims have been noted in the above rejection if claim 34. In addition, Fukuda further discloses the method wherein performing one-dimensional inverse transforms comprises performing one-dimensional transforms on a subset of the total number of columns in the block of transform coefficients (See Fukuda col. 10, lines 18-38).

As per claim 40, transcoding is suggested in Fukuda's col. 15, lines 23-64.

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda (US Patent no. 6549667) in view of Brooks et al. (US Patent no. 7,114,174) as applied to claim 11 above, and further in view of Lee (US Patent no. 6,763,070).

As per claim 21, most of the limitations of these claims have been noted in the above rejection of claim 11 .

It is noted that Fukuda is silent about a memory associated with a cable modem headend line card as specified in claims 21.

Lee discloses an apparatus and method for performing one-dimensional inverse

transforms wherein a memory associated with a cable modem headend line card (See Lee col. 14, lines 29-38).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Fukuda's transform operation by providing Lee's cable modem headend line card. The motivation for performing such modifications in Fukuda is to implement a stand-alone system as taught by Lee.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gims S. Philippe whose telephone number is (571) 272-7336. The examiner can normally be reached on M-F (10:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dastouri S. Mehrdad can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gims S Philippe
Primary Examiner
Art Unit 2621

GSP

October 23, 2006